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ABSTRACT

Elementary students recorded large gains in academic achievement in the two years their school was involved in an intensive instructional improvement project that employed team teaching, flexible scheduling, open classrooms, and individualized instruction. A study was done to determine if the achievement gains would continue through a third year if the principal was not involved in instructional planning and to determine if the return of the principal to extensive involvement in planning in a fourth year would result in another upward surge in achievement. Although there were some losses when the principal was absent from the planning, the scores in all areas in two of the three grades surveyed continued to be significantly higher than the scores obtained in the base year and the Hawthorne effect was dismissed as a major factor in the original increases. The return of the principal to team planning sessions resulted in additional achievement gains in all the areas at all the grade levels except second grade arithmetic. The extensive involvement of the principal in instructional planning with teacher teams can make a positive contribution to the success of the faculty in improving academic achievement of pupils. (Author/IRT)

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THE IMPACT OF PRINCIPAL INVOLVEMENT IN INSTRUCTIONAL PLANNING WITH TEACHER TEAMS ON ACADEMIC ACHIEVEMENT OF ELEMENTARY SCHOOL PUPILS

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Objectives

Large gains in most instructional areas had been achieved in an elementary school in Mississippi which had been involved in an intensive instructional improvement project when the academic achievement of elementary pupils taught through team teaching, flexible scheduling, open classrooms, and individualized instruction was compared to elementary pupils taught through a departmentalized, fixed schedule structure with no team planning. The project lasted for two years and the principal was extensively involved in planning with the various teaching teams. The authors served as educational consultants to the faculty throughout the two-year project.

The gains were of such magnitude that the authors wondered if the "Hawthorne effect" might be causing the large gains and/or if the extensive involvement of the principal in instructional planning might be resulting in more effective planning than would be the case if he were not present: The objectives of the achievement comparisons in this study were: (1) to determine if the achievement gains would continue through a third year of innovative practice with no involvement by the principal in instructional planning, and (2) to determine if the return of the principal to extensive involvement in planning with the teacher teams the fourth year would result in another upward surge in academic achievement.

Methods

Mean growth scores in the areas covered by the SRA Achievement Series were used as the measures of academic achievement. The school years 1970-71, 1971-72, 1972-73, 1973-74, and 1974-75 were the academic years included in the study. The 1970-71 school year was the last year prior to the adoption of the innovative practices and served as the base year against which comparisons were made. The t-test was used to test for significance of the obtained differences between means.

The following questions were posed:

(1) Did the pupils at each grade level make significantly higher achievement scores on each section of the SRA Achievement Tests during the 1973-74 school year than the comparable groups had made during the 1970-71 school year?

(2) Did the pupils at each grade level make significantly higher achievement scores on each section of the SRA Achievement Tests during the 1974-75 school year than the comparable groups had made during the 1970-71 school year.

Results

Mean growth scores of students on the SRA Achievement Tests for each year included in the study are presented in Table 1.

Table 1

MEAN GROWTH SCORES OF STUDENTS ON THE SRA ACHIEVEMENT TESTS
FOR THE SCHOOL YEARS 1970-71 THROUGH 1974-75

Grade and Subject	1970-71	1971-72	1972-73	1973-74	1974-75
2nd Grade					
Arithmetic	126	159	179	176	174
Reading	136	161	178	172	195
3rd Grade					
Language Arts	183	190	231	216	242
Arithmetic	166	190	223	204	234
Reading	178	177	226	204	242
4th Grade					
Language Arts	226	226	226	236	249
Arithmetic	229	232	242	228	234
Reading	208	223	231	225	252

The comparisons between the base year mean achievement scores and the mean scores after one year of operation of the innovative practices are presented in Table 2.

Table 2

COMPARISON OF MEAN GROWTH SCORES ON THE SRA ACHIEVEMENT
TESTS ON STUDENTS IN TEAM TAUGHT ORGANIZATION WITH
STUDENTS IN DEPARTMENTALIZED ORGANIZATION
1970-71 vs. 1971-72

Grade and Subject	Mean Growth Scores Departmentalized 1970-71	Mean Growth Scores Team Taught 1971-72	df	t
2nd Grade				
Arithmetic	126	159	137	6.58**
Reading	136	161	139	3.24**

*Significant at .05 level
**Significant at .01 level

Table 2 - Continued

Grade and Subject	Mean Growth Scores Departmentalized 1970-71	Mean Growth Scores Team Taught 1971-72	df	t
3rd Grade				
Language Arts	183	190	143	.91
Arithmetic	166	190	144	3.38**
Reading	178	177	140	.13
4th Grade				
Language Arts	226	226	130	.00
Arithmetic	229	232	137	.34
Reading	208	223	138	1.85

*Significant at .05 level
**Significant at .01 level

Significant differences were found between the 1970-71 achievement scores and the 1971-72 scores as follows:

2nd Grade: Arithmetic, reading.

3rd Grade: Arithmetic.

4th Grade: None.

The comparisons between the base year mean achievement scores and the mean scores after two years of operation of the innovative practices are presented in Table 3.

Table 3

COMPARISON OF MEAN GROWTH SCORES ON THE SRA ACHIEVEMENT TESTS OF STUDENTS IN TEAM TAUGHT ORGANIZATION WITH STUDENTS IN DEPARTMENTALIZED ORGANIZATION 1970-71 vs. 1972-73

Grade and Subject	Mean Growth Scores Departmentalized 1970-71	Mean Growth Scores Team Taught 1972-73	df	t
2nd Grade				
Arithmetic	126	179	141	9.74**
Reading	136	178	139	5.27**
3rd Grade				
Language Arts	183	231	143	6.62**
Arithmetic	166	223	144	7.61**
Reading	178	226	140	6.53**
4th Grade				
Language Arts	226	226	130	.00
Arithmetic	229	242	139	1.31
Reading	208	231	138	2.75**

*Significant at .05 level.
**Significant at .01 level.

Significant differences were found between the 1970-71 achievement scores and the 1972-73 scores as follows:

2nd Grade: Arithmetic, reading.

3rd Grade: Language arts, arithmetic, reading.

4th Grade: Reading.

By the end of the second year of operation of the innovative practices, the mean achievement scores in all the areas tested were significantly higher than those of the base year at the second and third grade levels. Systematic planning and intensive involvement of a faculty and principal in effecting

changes in curricular strategies resulted in dramatic gains in academic achievement of the pupils receiving the instructional services.

The comparisons between the base year mean achievement scores and the mean scores after three years of operation of the innovative practices are presented in Table 4.

Table 4

COMPARISON OF MEAN GROWTH SCORES ON THE SRA ACHIEVEMENT TESTS OF STUDENTS IN TEAM TAUGHT ORGANIZATION WITH STUDENTS IN DEPARTMENTALIZED ORGANIZATION 1970-71 vs. 1973-74

Grade and Subject	Mean Growth Scores Departmentalized 1970-71	Mean Growth Scores Team Taught 1973-74	df	t
2nd Grade				
Arithmetic	126	176	119	7.97**
Reading	136	172	117	4.15**
3rd Grade				
Language Arts	183	216	140	3.92**
Arithmetic	166	204	143	4.48**
Reading	178	204	138	2.94**
4th Grade				
Language Arts	226	236	139	1.13
Arithmetic	229	228	139	.10
Reading	208	225	137	1.78

*Significant at .05 level.
**Significant at .01 level.

The 1973-74 mean achievement scores were significantly higher than the 1970-71 mean scores in the following areas:

2nd Grade: Arithmetic, reading.

3rd Grade: Language arts, arithmetic, reading.

4th Grade: None.

The absence of the principal in the team planning during the 1973-74 academic year resulted in sufficient loss in fourth grade reading scores to result in the 1973-74 scores not differing significantly from the 1970-71 scores; significantly higher scores had been obtained for the 1972-73 reading scores over the 1970-71 scores. There was some loss in the size of the mean scores obtained in 1973-74 when compared to the 1972-73 scores in all the areas at all three grade levels except fourth grade language arts. However, the data did not indicate that the favorable results obtained in the 1971-72 and 1972-73 school years had been due to the "Hawthorne effect" inasmuch as the 1973-74 scores in all areas in the second and third grades continued to be significantly higher than the scores obtained in 1970-71.

The comparisons between the base year mean achievement scores and the mean scores after four years of operation of the innovative practices are presented in Table 5.

Table 5

COMPARISON OF MEAN GROWTH SCORES ON THE SRA ACHIEVEMENT TESTS OF STUDENTS IN TEAM TAUGHT ORGANIZATION WITH STUDENTS IN DEPARTMENTALIZED ORGANIZATION 1970-71 vs. 1974-75

Grade and Subject	Mean Growth Scores Departmentalized 1970-71	Mean Growth Scores Team Taught 1974-75	df	t
2nd Grade				
Arithmetic	126	174	115	7.74**
Reading	136	195	113	7.52**

*Significant at .05 level.
**Significant at .01 level.

Table 5 - Continued

Grade and Subject	Mean Growth Scores Departmentalized 1970-71	Mean Growth Scores Team Taught 1974-75	df	t
3rd Grade				
Language Arts	183	242	121	8.07**
Arithmetic	166	234	122	8.90**
Reading	178	242	119	11.91**
4th Grade				
Language Arts	226	249	141	3.34**
Arithmetic	229	234	140	.54
Reading	208	252	139	6.52**

*Significant at .05 level.
**Significant at .01 level.

The 1974-75 mean achievement scores were significantly higher than the 1970-71 mean scores in the following areas:

2nd Grade: Arithmetic, reading.

3rd Grade: Language arts, arithmetic, reading.

4th Grade: Language arts, reading.

The return of the principal to the team planning sessions with the teacher teams during the 1974-75 school year resulted in additional achievement gains in all the areas at all three grade levels except second grade arithmetic.

By the end of the fourth year of implementation of the innovations the mean scores in all of the subject areas except fourth grade arithmetic were significantly higher than they were prior to the start of the instructional improvement project.

Educational Significance

Systematic planning and intensive involvement of a faculty in effecting changes in curricular strategies can result in dramatic gains in academic achievement of the pupils receiving the instructional services. The extensive involvement of the principal in instructional planning with teacher teams can make a positive contribution to the success of the faculty in improving academic achievement of pupils. When the principal removes himself from active involvement in instructional planning with teacher teams there may be a tendency for the teacher teams to be less effective in the instructional process than when the principal exercises leadership through extensive direct involvement with teachers in the planning process.

Team planning and instruction can result in more individualized teaching and greater learning opportunities for elementary pupils than a departmentalized curricular pattern with a fixed schedule. The skills which teachers develop in a carefully planned instructional improvement project are permanent; they do not manifest themselves for a year or two and then deteriorate. After the "newness" of an instructional improvement project passes, teachers do not revert back to the earlier curricular strategies.

Gains in academic achievement of elementary pupils may be maximized through organizational arrangements which aid teachers in utilizing their professional talents to the fullest extent possible in providing for individual pupil needs. Central to the success of the organizational arrangements is the commitment and extensive involvement of the principal.